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10/584,074

06/22/2006

Ken'ichi Kasazumi

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WENDEROTH, LIND & PONACK L.L.P.

2033 K. STREET, NW

SUITE 800

WASHINGTON, DC 20006

EXAMINER

HOWARD, RYAN D

ART UNIT

PAPER NUMBER

2851

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DELIVERY MODE

10/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/584,074 | Applicant(s) KASAZUMI ET AL. | |
| | Examiner RYAN HOWARD | Art Unit 2851 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Roddy et al. (US 2003/0214633 A1).

Regarding claim 1, Roddy teaches

a red light source for emitting red light (12r; figure 5);

a green light source for emitting green light (12g; figure 5);

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a blue light source for emitting blue light (12b; figure 5); and

a means (a light modulator 20) for forming a two-dimensional image by using the lights emitted from the respective light sources of the three colors (20r-b; figure 5);

wherein the center wavelength of said blue light source is not less than 420 nm and not larger than 455 nm (paragraph 0057).

Regarding claim 2, Roddy further teaches the center wavelength of said red light source is not less than 635 nm and not larger than 655 nm (paragraph 0060), and the center wavelength of said green light source is not less than 505 nm and not larger than 550 nm (paragraph 0059).

Regarding claim 4, Roddy further teaches the center wavelength of said red light source is not less than 635 nm and not larger than 655 nm (paragraph 0060).

Regarding claim 5, Roddy further teaches the center wavelength of said green light is not less than 505 nm and not larger than 550 nm (paragraph 0059).

Regarding claim 6, Roddy further teaches the center wavelength of said blue light source is not less than 440 nm and not larger than 455 nm (paragraph 0057).

Regarding claim 10, Roddy further teaches the light emitted from each light source has a spectrum width equal to or smaller than that of a semiconductor laser source (paragraph 0061; paragraph 0071). The spectrally pure, monochromatic light sources of Roddy are as narrow a spectrum width as possible and are therefore, have a spectrum width at least as narrow as a semiconductor laser.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy et al. (US 2003/0214633 A1) in view of Deter (US Patent 6,309,072 B1).

Regarding claim 3, Roddy does not teach the ratio of light output from the blue light source to light output from the green light source during white display is not less than 0.5:1 and not larger than 4:1, and the ratio of light output from the red light source to light output from the green light source during white display is not less than 0.4:1 and not larger than 1.3:1.

Deter teaches a projector system having a color light source with the ratio of the output of the red, green, and blue light within the ratio range. Deter teach that the daylight-equivalent standard illuminant D 65 requires output proportions of 100% for red (632 nm), 95.3% for green (532 nm) and 67.9% for blue (445 nm) (column 8 lines 42-48), yielding a ratio of $(100/95.3 : 95.3/95.3 : 67.9/95.3) = (1.05 : 1 : .72)$ which is (.72:1) for blue and (1.05:1) for red.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the projector system of Roddy with the white balance D 65 standard of Deter in order to provide an optimum balance of white light according to the D 65 daylight standard, and furthermore, since it has been held where

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the general conditions of a claim are disclosed in the prior art, discovering the optimum workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy et al. (US 2003/0214633 A1) as evidenced by Chaudhari et al. (US 2003/0210371 A1).

Regarding claim 7, Roddy does not explicitly teach the center wavelength of the blue light source is not larger than 440 nm.

However, Roddy suggests the extent of the color gamut available with the use of a laser wherein the center wavelength of the blue light source is not larger than 440 nm (paragraph 0063).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the light source of 440 nm because the wavelength of peak sensitivity for the blue receptors of the eye is 440 nm which further increases the color perception to the viewer as evidenced by Chaudhari (paragraph 0012).

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy et al. (US 2003/0214633 A1) in view of Okazaki et al. (US Patent 6,764,183 B2).

Regarding claim 8, Roddy does not teach said blue light source is a semiconductor laser based on gallium nitride. Okazaki teaches said blue light source is a semiconductor laser based on gallium nitride (column 10 lines 34-43). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the

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invention was made to replace the light source of Roddy with the gallium nitride based laser of Okazaki because the gallium nitride laser of Okazaki does not require a cooling unit, and can reduce the overall size of the display (column 4 lines 1-7).

Regarding claim 9, Roddy does not teach said red light source is a semiconductor laser based on AlGaInP. Okazaki teaches said red light source is a semiconductor laser based on AlGaInP (column 9 lines 18-22). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the light source of Roddy with the AlGaInP based laser of Okazaki because the AlGaInP laser of Okazaki does not require a cooling unit, and can reduce the overall size of the display (column 4 lines 1-7).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN HOWARD whose telephone number is (571)270-5358. The examiner can normally be reached on Monday-Friday 7:30-5:00, First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571)272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ryan Howard/
Examiner, Art Unit 2851
09/25/2008

/Diane I Lee/
Supervisory Patent Examiner, Art Unit 2851